UNITED STATES PATENT AND TRADEMARK OFFICE

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10/529,410	11/04/2005	Andrew Blackmore	P/63751	6767

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/529,410	BLACKMORE, ANDREW
	Examiner	Art Unit
	JASON RECEK	2442

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _22 September 2008_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _87-129_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _87-129_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

This is in response to the amendment filed on August 5th 2008.

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/22/08 has been entered.

Status of Claims

Claims 87-129 are pending.

Claims 87-129 are currently rejected under 35 U.S.C. 103(a).

Response to Arguments

2.   Applicant's arguments with respect to the rejection(s) of claim(s) 89-129 under 103(a) have been fully considered and are persuasive. Specifically the argument that Dev does not disclose a device polling another linked device as now recited by the independent claims is persuasive. Therefore, the rejection has been withdrawn.

However, upon further consideration, a new ground(s) of rejection is made in view of

Fan et al. US 6,643,269 B1.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 87-95 and 100-129 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Dev et al. U.S. Pat. 5,261,044 in view of Jain US 2002/0116669 A1

and Fan et al. US 6,643,269 B1.

    Regarding claim 87, Dev discloses "a method of monitoring a status of network

elements" as a network management system (abstract), "identifying the at least one

other NE which is linked to the NE" as determining adjacent network elements (col. 11

ln. 17-24), and "polling by the network management system one of the NE and the at

least one other NE to determine the status thereof" as polling network devices (col. 11

ln. 30-34), applicant admits in arguments (pg. 10) that Dev's disclosure teaches the

network management system (i.e. a model representing device) polling a device.

    Dev does not explicitly disclose "receiving by a network management system a

notification from the NE in the network of a down status of one of the neighboring NEs"

however this is taught by Jain as network nodes reporting faults of their neighbors

(abstract, Fig. 4, paragraphs 14-15).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify Dev with the fault reporting taught by Jain for the purpose of

discovering faults. Dev suggests that network devices automatically report significant

events (col. 7 ln. 54-59). One of ordinary skill in the art would consider the failure of a

node to be a significant event. Jain also teaches that by reporting faults a network is

able to recover (paragraph 19). Given this motivation, it would have been obvious for

network elements to report if their neighbors had a fault.

Dev and Jain do not explicitly disclose "polling regularly by a NE at least one

other NE which is linked to the NE" however this is taught by Fan as neighboring nodes

periodically transmitting to each other to monitor status (col. 3 ln. 6-19). Giving the term

"polling" its broadest reasonable interpretation, one of ordinary skill in the art would

understand that it simply means to perform a status check. This is what Fan discloses.

It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify Dev and Jain with the polling taught by Fan for the purpose of

checking the status of a neighboring node. By polling regularly as disclosed by Fan a

change of status can be detected. This allows for the automatic reconfiguration of a

network so that the network can keep functioning properly. This is a clearly recognized

advantage.

Regarding claims 88-89, Dev discloses "in which the status of the NE is operational" and "in which the status of the NE is non-operational" as sending operational status (col. 5 ln. 36-40).

Regarding claim 90, Dev discloses "the down status notification is received from the NE if the NE determines that the status of the at least one other NE linked thereto is non-operational" as a failure status may be received due to another device failing (col. 10 ln. 67 – col. 11 ln. 7).

Regarding claim 91, Dev discloses "each NE polls one of the NE and the at least one other NE linked thereto to determine the status of the at least one other NE" as a network device that polls adjacent network devices to determine status information (col. 11 ln. 17-22, ln. 34-37).

Regarding claim 92, Dev discloses "each NE polls one of the NE and the at least one other NE linked thereto by signaling to the at least one other NE, using a signaling protocol" as using a communication protocol for polling (col. 7 ln. 34-39).

Regarding claims 93-94, Dev discloses "if one of the NE and the at least one other NE replies, the status is considered to be operational" and "if the one of the NE and the at least one other NE does not reply, its status is considered to be non-

operational" as considering a device operational if a reply is returned (col. 9 ln. 18-21)

and considering a device to be faulty if no reply is received (col. 9 ln. 33-36).

Regarding claim 95, Dev discloses "the down status notification contains

information on the NE which has output the notification" as a status information

message that contains information about the NE (col. 5 ln. 36-40).

Regarding claims 100-101, Dev discloses "the down status notification is

received using a signaling protocol" and "the signaling protocol comprises a simple

network management protocol (SNMP)" as using a common network protocol for

communication such as SNMP (col. 4 ln. 23-31).

Regarding claim 102, Dev discloses "the identifying step comprises accessing

the down status notification to obtain information on the NE which has output the

notification" as processing the information received form the network device (col. 5 ln.

36-38) which includes information on the NE (col. 5 ln. 38-40).

Regarding claim 103, Dev discloses "the identifying step comprises accessing a

links database containing details of each NE and the at least one other NE linked

thereto" as a network management system includes a database that holds information

concerning the network devices (col. 4 ln. 13-18), and "using the information to obtain

the identification of the one of the NE and the at least one other NE" as accessing the database to retrieve messages that contain identification information (col. 8 ln. 26-33).

Regarding claim 104, Dev discloses "the identifying step comprises accessing the links database" as accessing the database to retrieve messages that contain identification information (col. 8 ln. 26-33). Dev and Jain do not specifically disclose "using the information to obtain an internet protocol (IP) address of one of the NE and the at least one other NE" however Dev teaches using SNMP (col. 4 ln. 28-29) which uses IP addresses to identify network devices. It would have been obvious to one of ordinary skill in the art at the time of the invention to extract the IP address from the database for the purpose of identifying the specific device. The motivation for doing so is to clearly identify the network entity for which information is being provided (col. 2 ln. 18-20).

Regarding claim 105, Dev discloses "the polling step comprises sending at least one simple network management protocol (SNMP) get request to the NE" as using SNMP for communication (col. 4 ln. 28-30) and polling (col. 7 ln. 32-34).

Regarding claim 106, Dev discloses "the polling step comprises using the SNMP" as using SNMP for communication (col. 2 ln. 18-20). Dev does not explicitly disclose using SNMP "over transmission control protocol/internet protocol (TCP/IP)" however Jain teaches this as equipment that uses TCP/IP to pass data (paragraph 34).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify Dev by using TCP/IP taught by Jain for the purpose of

communicating over the network. TCP/IP is a known technique that produces

predictable results.

Regarding claim 107, Dev discloses "using a network management system

(NMS) of the telecommunication network" as using a network management system on

the network (abstract, col. 3 ln. 66 – col. 4 ln. 5, Fig. 1).

Regarding claim 108, Dev discloses "the NMS comprises a fault manager

module" as a NMS that can handle faults (col. 10 ln. 1-2, col. 11 ln. 12-14).

Regarding claim 109, Dev discloses "the fault manager module receives the

down status notification from the NE" as a network management system which handles

faults receives the status notification from the network device (col. 7 ln. 54-58).

Regarding claim 110, Dev discloses "the fault manager module places the down

status notification in a notification database of the NMS" as a network management

system that places notifications into a database (col. 3 ln. 68 – col. 4 ln. 2, col. 2 ln. 13-

18, col. 8 ln. 21-25, Fig. 1).

Regarding claim 111, Dev discloses "the fault manager module outputs a

message on receipt of the down status notification" as outputting an alarm to the user

when an error is received (col. 9 ln. 26-30).

Regarding claim 112, Dev discloses "the NMS comprises a monitoring module"

as a device communication manager (Fig. 1) that communicates with network devices

(col. 4 ln. 18-21). When network devices automatically send status updates (col. 7 ln.

54-58) this device is in a monitoring mode.

Regarding claim 113, Dev discloses "the monitoring module receives a message

output from the fault manager module when it receives the down status notification" as

the communication module receives a request to poll from the fault manager (col. 7 ln.

34-36) when the fault manager receives a status notification (col. 11 ln. 17-22), this

request to poll is a message.

Regarding claim 114, Dev discloses "the monitoring module accesses the down

status notification, to obtain information on the NE which has output the notification" as

the communication module extracts information from the notification (col. 7 ln. 39-44).

Regarding claim 115, Dev discloses "the monitoring module accesses a links

database of the NMS containing details of each NE and the at least one other NE linked

thereto" as a database that contains details of each network device (col. 4ln. 13-18) and

is accessed by the NMS (col. 8 ln. 16-20), "and uses the information to obtain the

identification of one of the NE and each other NE" as getting information from the

database for the purposes of identification (col. 10 ln. 41-61).

Regarding claim 116, Dev discloses "the monitoring module polls one of the NE

and each other NE to determine the status thereof" as polling networking devices (col. 5

ln. 31-34).

Regarding claim 117, Dev discloses "the monitoring module determines the

status of at least one NE of the network, and adds status information to a status

database of the NMS" as polling to determine status (col. 5 ln. 31-34) and storing

information in a database (col. 8 ln. 21-25).

Regarding claim 118, Dev discloses "the NMS comprises a graphical user

interface (GUI) module" as a user interface that is window-based (col. 12 ln. 64-68).

Regarding claim 119, Dev discloses "the GUI module is used to report the status

of one of the NE and the at least one other NE of the network to a customer of the

network" as providing status reports through the user interface (col. 4 ln. 2-9).

Regarding claim 120, Dev discloses "the NEs in the telecommunication network

comprise nodes, switches and routers" as network devices such as bridges and routers

(col. 5 ln. 44-47).

Regarding claim 121, it is a device claim that corresponds to the method claim

87, it is therefore rejected for similar reasons.

Regarding claim 122, it is a computer readable medium claim that corresponds to

claim 87 (as indicated by applicant on pg. 11 of response on 1/14/08) and is therefore

rejected for similar reasons.

Regarding claim 123, Dev discloses a computer program product "comprised in a

network management system (NMS) of the telecommunication network" as a network

management system running on a computer (col. 4 ln. 58 – col. 5 ln. 6).

Regarding claim 124, Dev discloses "means for receiving the down status

notification from the NE of the network comprises a fault manager module of the NMS"

as a NMS that can handle faults (col. 10 ln. 1-2, col. 11 ln. 12-14).

Regarding claim 125, Dev discloses "means for identifying the at least one other

NE which is linked to the NE comprises a monitoring module of the NMS" as a device

communication manager (Fig. 1) that communicates with network devices (col. 4 ln. 18-21).

Regarding claim 126, Dev discloses "means for polling comprises the monitoring module of the NMS" as polling networking devices (col. 7 ln. 34-37).

Regarding claim 127, it is a system claim that correspond to the computer readable medium of claim 122, it is therefore rejected for similar reasons.

Regarding claim 128, it is a system claim that corresponds to the method claim 87 and is therefore rejected for similar reasons.

Regarding claim 129, it is a computer readable medium claim that corresponds to the method of claim 87, therefore it is rejected for similar reasons.

5.   Claims 96-99 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dev, Jain and Fan in view of Walker et al. 6,061,723.

Regarding claim 96, Dev discloses "the down status notification is received from a NE" as a NE sends a status notification (col. 7 ln. 54-57), however Dev does not specifically disclose sending a status notification when "the NE determines that a status

of an interface thereof linked to at least one other NE is non-operational" this is taught

by Walker as analyzing the status of network interfaces (col. 5 ln. 61-62).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify Dev with the interface status monitoring ability taught by Walker.

The motivation for doing so is to aid the network administrator in their effort to identify

and fix network failures (Walker col. 4 ln. 19-23).

Regarding claim 97, Dev discloses "the status of the interface is non-operational

if the status of the one of the NE and the at least one other NE linked to the interface is

non-operational" When a NE is non-operational the network device will not be able to

make contact with that NE over the interface, thus when a NE becomes non-operational

the interface is also non-operational and a status message is sent (col. 10 ln. 67 – col.

11 ln. 7, col. 7 ln. 54-58).

Regarding claim 98, Dev discloses "the down status notification contains

information on the NE which has output the notification" as a status message containing

information about the network device (col. 5 ln. 34-40), however Dev does not disclose

"and information on the interface of the NE which is non-operational" this is taught by

Walker as sending information to a network administrator concerning the network

interface (col. 5 ln. 52-63).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify Dev with the interface status monitoring ability taught by Walker.

The motivation for doing so is to aid the network administrator in their effort to identify

and fix network failures (Walker col. 4 ln. 19-23).

Regarding claim 99, Dev discloses "the interface comprises a hardware port" as

interfaces that connect the network devices (col. 5 ln. 20-22, Fig. 2). Dev does not

specifically disclose "and the down status notification comprises a hardware port down

trap" however Dev discloses using Simple Network Management Protocol (col. 4 ln. 27-

29) which is commonly used to issue traps, thus having a down trap in a status

message would have been obvious to one of ordinary skill in the art at the time of the

invention for the purpose of notifying a network administrator that there was a problem

with the network. Such use of a down trap in a status message is a known technique

that yields predictable results.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to JASON RECEK whose telephone number is (571)270-

1975. The examiner can normally be reached on Mon - Thurs 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Andrew Caldwell can be reached on (571) 272-3868. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew Caldwell/
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(571)-270-1975